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MICHAEL R. ROSEN

Curriculum Vitae

Professional Address: Michael R. Rosen, M.D.
Gustavus A. Pfeiffer Professor of Pharmacology
Professor of Pediatrics
Director, Center for Molecular Therapeutics
College of Physicians and Surgeons of Columbia University
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Home Address: 25 East 86 Street, Apartment 14C
New York, N.Y. 10028

Birthdate and Place: October 8, 1938
New York, New York

Marital Status: Married

Education

Wesleyan University, B.A., 1960

State University of New York, Downstate Medical Center, M.D., 1964

Medical Licensure - New York, 1965

Traineeship

Internship (mixed) Medicine and Surgery - Montefiore Hospital, July 1964 - June 1965

Resident in Medicine - Montefiore Hospital, July 1965 - July 1966, August 1968 - June 1969

Resident in Cardiology - Montefiore Hospital, July 1969 - June 1970

Postdoctoral Fellow - Department of Pharmacology, College of Physicians and Surgeons of Columbia University, July 1970 - June 1972

Academic Appointments

Assistant Instructor of Medicine - Albert Einstein College of Medicine, Bronx, New York. July 1969 - June 1970

Associate, Department of Pharmacology, College of Physicians and Surgeons of Columbia University, New York, New York, July 1972 - 1973

Assistant Professor of Pharmacology, College of Physicians and Surgeons of Columbia University, New York, New York, July 1973 - 1975

Assistant Professor of Pharmacology and Pediatrics, College of Physicians and Surgeons of Columbia University, New York, New York, July 1975 - 1976

Associate Professor of Pharmacology and Pediatrics, College of Physicians and Surgeons of Columbia University, New York, New York, July 1976 - 1981

Professor of Pharmacology and Pediatrics, College of Physicians and Surgeons of Columbia University, New York, New York, July 1981 -

Head, Division of Developmental Pharmacology, 1981 -

Gustavus A. Pfeiffer Professor of Pharmacology, Columbia University, New York, New York, July 1991 -

Professor of Basic Medicine: Moscow-State University, Moscow, Russia, 1993-1998

Director, Center for Molecular Therapeutics, 2000 -

Adjunct Professor of Physiology and Biophysics, SUNY Stony Brook, 2000 -

Hospital Appointments

Internist, Department of Internal Medicine, USAF Hospital, Beale AFB, California, August 1966 - August 1968

Assistant Visiting Physician, Division of Cardiology, Harlem Hospital, New York, New York, July 1972 -

Assistant Physician, Presbyterian Hospital, New York, New York, July 1975 - 1976

Associate Attending Physician, Presbyterian Hospital, New York, July 1976 - 1981

Attending Pediatrician in Pediatric Service, Presbyterian Hospital, New York, NY, July 1981 - 2002

Columbia University Committees:

Pharmacology Executive Committee, 1976-

Head, Biosafety Committee, 1986-1989

Institutional Safety Committee, 1986 - 1989

Faculty Council, 1987 - 1992

Executive Committee of Faculty Council, 1988 - 1992

Committee on Appointments and Promotions, 1987 - 1990

Chairman, Committee on Appointments and Promotions; 1989 - 1990

Standing Committee on the Conduct of Science; 1990-1991

Member and/or Chairman, Ad Hoc Committees on Departmental Review, on Tenured Appointments and on Institutional Search Committees

Member, Columbia University Senate; 1992 - 1997

Member, Columbia University Education Committee; 1992 - 1997

Member, Columbia University Executive Committee; 1995 - 1997

Qualification

Diplomate, American Board of Internal Medicine, 1971

Military Service

USAF, Beale AFB, California, 1966 - 1968

Grants

New York Tuberculosis and Health Association Grant for evaluation of epidemiology of tuberculosis in Ibadan, Nigeria, 1963

State University of New York, Downstate Medical Center, Grant for evaluation of epidemiology of tuberculosis in Ibadan, Nigeria, 1963

Senior Investigator, New York Heart Association, 1972 - 1975

Grants continued:

Research Fellow, John Polachek Foundation, July 1973 - June 1974

Pediatric Cardiac Electrophysiology and Pharmacology (NHLBI Grant HL-17766), February 1975 - 1977

Electrophysiology and Pharmacology of Pediatric Cardiac Arrhythmias and Sudden Death (Irma T. Hirschl Trust), 1975 - 1979

New York Heart Association Research Grant, 1975 - 1977

Principal Investigator, Mission VII of NHLBI Grant HL-12738, Physiologic Pharmacology and its Clinical Applications, 1977 - 1983

Principal Investigator, New York Heart Grant "Heart and Nerve Cell Cultures: Physiology and Arrhythmias," 1978 - 1980

Principal Investigator, USPHS-NHLBI Grant HL-23358 "Age-related changes in cardiac autonomic interactions," 1979 - 1983

Participating Laboratory, New York Heart Association, 1977 - 1981

Principal Investigator, USPHS-NHLBI Grant HL-28223, "Triggered activity and cardiac arrhythmias," 1982 - 1990

Principal Investigator, USPHS-NHLBI Program Project Grant: HL-28958; "Developmental Approach to Cardiac Rhythms and Arrhythmias," 1983 -

Co-principal Investigator, USPHS-NHLBI Program Project Grant: HL-33727; "Lethal Arrhythmias: Mechanisms and Prevention," 1985 - 1989

Principal Investigator, Glaxo Cardiovascular Discovery Grant: "New Therapeutic Approaches to Neurally-Modulated Arrhythmias," 1989 - 1992

Principal Investigator, USPHS-NHLBI Grant: HL-43731; "Neurohumors, Arrhythmias and Diagnosis," 1990 - 1997

Principal Investigator, USPHS-NHLBI Training Grant: HL-07271; "Cardiac Arrhythmias: Mechanisms and Treatment," 1992 - 2001

Principal Investigator, Helopharm: Electrophysiology laboratory: 1993 -1998

Principal Investigator, Grant from Procter and Gamble: "The acute effects of gonadal steroids (estrogen and progesterone) on the electrophysiological properties of cardiac tissues," 1995-1999

Principal Investigator, Grant from the Wild Wings Foundation: "Project on Sudden Death," 1996 -1999; Bawd Foundation 1999-2000

Grants continued:

Principal Investigator, USPHS-NHLBI Grant HL-53956; "Electrical Remodeling, Repolarization & Antiarrhythmics," 1997 - 2001

Co-Principal Investigator (with Ofer Binah, PhD, Technion, Haifa), US-Israel Binational Science Foundation; "Remodeling of gap junctions by activation patterns in cultured ventricular myocytes," 2000 - 2003

Principal Investigator, USPHS-NHLBI Grant HL-67449; "Atrial fibrillation: Mechanisms and Prevention," 2000 - 2004

Principal Investigator, USPHS-NHLBI Grant HL-67101; "Memory, Remodeling and Ventricular Arrhythmias," 2001 - 2006

Honors (Selected)

Alpha Omega Alpha, 1963

Fellow, American College of Physicians, 1973

Fellow, American College of Clinical Pharmacology, 1975

Fellow, American College of Cardiology, 1975

Honorary Regent for Life: American College of Clinical Pharmacology, 1985 -

Distinguished Alumnus Award: Polytechnic Preparatory C.D. School, 1991

Award of Merit: American Heart Association, 1992

Samuel Seifter, Ph.D. Award: Master Teacher in the Basic Sciences, SUNY Downstate Medical Center, 1994

Plenary Lecturer, British Cardiac Society, 1997

Fellow, European Society of Cardiology, 1999

Chairman's Award: American Heart Association, 2000

Founding Fellow, International Society for Heart Research, 2001

Fellow, American Heart Association, 2001

Einthoven Award; The Einthoven Foundation; Leiden, The Netherlands, 2002

Societies

American Federation for Clinical Research

American Association for the Advancement of Science

New York Academy of Sciences

American Society for Clinical Pharmacology and Therapeutics

New York Heart Association

American Society for Pharmacology and Therapeutics

American Geriatrics Society

Cardiac Muscle Society

International Society for Heart Research

American College of Clinical Pharmacology

American Heart Association

Cardiac Electrophysiology Society

Other Professional Activities

Editorial Positions:

Associate Editor, ***Circulation Research***; July 1975 - June 1981

Member, Editorial Board, ***Journal of Clinical Pharmacology***; 1981 - 1984

Member, Editorial Board, ***Circulation***; 1983 -

Member, Editorial Board, ***Journal of Molecular and Cellular Cardiology***; 1986-1989; 1994 - 1999

Associate Editor: ***Journal of Molecular and Cellular Cardiology***; 1989 - 1993

Member, Editorial Board, ***Journal of Cardiovascular Electrophysiology***; 1990 -

Member, Editorial Board, ***European Journal of Pharmacology***; 1990 - 1996

Member, Editorial Board, ***Journal of Cardiovascular Pharmacology***; 1991 - 1994

Consulting Editor: ***Cardiovascular Research***; 1992 -

Member, Editorial Board, ***Circulation Research***; 1993 - 1998

Specific Field Editor: ***Journal of Pharmacology and Experimental Therapeutics***; 1993 - 1994

Editor-in Chief (with Paul Vanhoutte, M.D., Ph.D.): ***Journal of Cardiovascular Pharmacology***; 1994 -

Consulting Editor: ***Circulation Research***; 1998 -

Course and Meeting Directorships:

Rosen MR, Wit AL; Course Directors: Reentrant Arrhythmias: Mechanisms, Diagnosis, Treatment; sponsored by Columbia University; November 5-7, 1973

Rosen MR, Wit AL; Course Directors: Cardioactive Drugs: Mechanisms, Pharmacokinetics and Clinical Applications: Sponsored by Columbia University and the American Heart Association; June 4-6, 1975

Rosen MR; Course Director: Selected Topics in Pharmacotherapy; presented at South Nassau Community Hospital; April-June, 1975

Rosen MR; Director: Pharmacology Journal Club: 1976 -

Rosen M, Palti Y; Co-Directors: Rappaport Institute Symposium on Lethal Arrhythmias Resulting from Myocardial Ischemia and Infarction. Haifa, Israel; March 1988

Other Professional Activities continued:

Course and Meeting Directorships continued:

Rosen M; Janse M; Wit A; Co-Directors: The Hoffman Symposium; Islamorada, Florida; 1990

Rosen M, Schwartz P, Janse M; Directors: Sicilian Gambit Meeting, Taormina, Sicily, 1990

Rosen M, Schwartz P, Levy S; Directors: Sicilian Gambit Meeting, Harrison, NY, October, 1993

Rosen M, Kléber A, Camm J, Janse M, Schwartz P: Directors: Sicilian Gambit Meeting, Harrison, NY, October, 1996

Rosen M: Director: Prevention of Atrial Fibrillation, Ile de Porquerolles, September, 1999

Rosen M: Director: Sicilian Gambit Meeting, Chatham, MA, October, 2000.

Honorary Professorships and Lectureships (Selected):

Visiting Professor: The Rappaport Institute, Technion-Israel Institute of Technology; June-August, 1984

Honorary Member: Argentine Association of Cardiac Pharmacology; 1985 -

Visiting Professor: University of Limburg, Maastricht, The Netherlands; June 1985

Abraham Jezer Memorial Lecturer: Montefiore Hospital, New York; 1985

David Littman Memorial Lecturer: Harvard School of Medicine; May 1986

William N. Creasy Visiting Professor of Clinical Pharmacology (Burroughs-Wellcome Fund): Wayne State University; April 1988

Visiting Professor, Cardiovascular Research Institute: University of California at San Francisco; May 1988

David Scherf Memorial Lecturer: Lenox Hill Hospital, New York; September 1988

Visiting Professor: University of Limburg, Maastricht, The Netherlands; October 1989

Sterling Lecturer: SUNY, Syracuse, March 1991

Gordon Moe Memorial Lecturer: New York Heart Association, September 1992

Visiting Lecturer: SUNY, Stony Brook, Cardiovascular Institute, February 1995

Plenary Lecturer: British Cardiac Society, 1997

Other Professional Activities continued:

Honorary Professorships and Lectureships (Selected):

Ziegler Lecturer: Rappaport Institute, Technion, October 2000

Israel Pollack Distinguished Lecture Series, Technion, October 2001

Chandler McC. Brooks Seminar: SUNY Health Science Center at Brooklyn, May 2002

International Lectureship, The Rayne Institute, London, UK, May 2002

The Einthoven Lecture: Leiden, The Netherlands, June 2002

Landmark Lecture, International Society of Heart Research, Madison, WI, 2002

Distinguished Visiting Professor: Heart and Vascular Center, Case Western Reserve University, Cleveland, OH, December 2002

National Heart, Lung and Blood Institute:

Ad hoc Consultant; 1975 - 1977

Member, Cardiovascular and Pulmonary Study Section; 1977 - 1981

Member, Research Review Committee A; 1988 - 1992

Member, Joint NHLBI-Russian Ministry of Health Exchange Program in Sudden Cardiac Death; 1989 - 1998

Member, NIH Reviewers Reserve; 1992

Member, Cardiovascular B Study Section, 1994 - 1998

Member, Cardiotoxicity Expert Working Group of the Nonclinical Studies Subcommittee of the Advisory Committee for Pharmaceutical Science, US Food and Drug Administration, 2001 -

Fellow, Council on Circulation, 1978 -

Fellow, Council on Basic Science, 1985 -

Member, Scientific Sessions Program Committee, 1982 - 1991

Member, Executive Committee, Council on Basic Sciences, 1985 - 1987, 1992 -

Chairman, Program Committee, Council on Basic Sciences; 1985 - 1987

Vice Chairman, Scientific Program Committee, 1986, 1988

Other Professional Activities continued:

American Heart Association:

Chairman, Scientific Program Committee, 1988 - 1991

Member, Board of Directors; 1988 - 1991

Chairman, Task Force on Strategies to Increase Federal Funding of Research; 1990

Vice Chairman, Council on Basic Science; 1992 - 1994

Chairman, Basic Science Council Membership Committee; 1992 - 1994

Chairman, Basic Science Council Long Range Planning Committee; 1992 - 1994

Chairman, Basic Science Council Budget Committee; 1992 - 1994

Chairman-elect, Council on Basic Science; 1993 - 1994

Chairman, Council on Basic Science; 1994 - 1996

Chairman, Council on Basic Science Nominating Committee; 1996 - 1998

Chairman, Research Review Committee, Northeast 5A; 1998 -1999

New York Heart Association:

Member, Council on Professional Education; 1978 - 1981

Member, Board of Trustees; 1991 - 1996

Member, Executive Committee; 1991 - 1993

Chairman, Task Force on Membership; 1991 - 1992

Member, Government Affairs Committee; 1993 - 1997

American College of Cardiology:

Member, Joint American College of Cardiology/American Heart Association
Advisory Committee on Cardiovascular Drugs; 1979 - 1985

Member, Publications Committee; 1982 - 1987

Scientific Sessions Program Committee; 1983 - 1986

Other Professional Activities continued:

American College of Clinical Pharmacology:

Member, Board of Regents, 1978 - 1982

President, 1982 - 1984

Honorary Regent for Life: 1985 -

Cardiac Electrophysiologic Society:

Secretary-Treasurer, 1980 - 1981

President, 1981 - 1982

Miscellaneous Activities:

Consultant for "Understanding Electrocardiography" by M.B. Conover, C.V.
Mosby, St. Louis; 1980

Affiliate Member, Oklahoma Medical Research Foundation; 1984 - 1989

Consultant, Krannert Institute of Cardiology; 1987 - 1990, 1995 -

Consultant: Farmitalia, Carlo Erba; 1987 - 1989

Member, United States Pharmacopeial Advisory Panel on Cardiovascular and Renal
Drugs; 1990 - 1995

Member, Scientific Advisory Committee of the Rappaport Institute, Haifa, Israel;
1991 -

Member, Scientific Advisory Committee for the Ad Hoc Group for Medical Research
Funding; 1991 -

Advisory Board: Genentech Access Excellence; 1993 - 1996

PUBLICATIONS

ORIGINAL ARTICLES

1. Rosen M, Lisak R, Rubin I: Diphenylhydantoin in cardiac arrhythmias. *Amer J Cardiol* 20:674-678, 1967.
2. Rosen M, Gelband H, Hoffman BF: Effects of phentolamine on electrophysiologic properties of isolated canine Purkinje fibers. *J Pharmacol Exp Ther* 179:586-593, 1971.
3. Gelband H, Bush H, Rosen M, Myerburg R, Hoffman BF: Electrophysiologic properties of isolated preparations of human atrial myocardium. *Circ Res* 30:293-300, 1972.
4. Rosen M, Gelband H, Hoffman BF: Effects of blood perfusion on electrophysiologic properties of isolated canine Purkinje fibers. *Circ Res* 30:575-588, 1972.
5. Rosen M, Gelband H, Hoffman BF: Canine electrocardiographic and cardiac electrophysiologic changes induced by procaine amide. *Circulation* 46:528-536, 1972.
6. Rosen MR, Gelband H, Hoffman BF: Correlation between effects of ouabain on the canine ECG and transmembrane potentials of isolated Purkinje fibers. *Circulation* 47:65-71, 1973.
7. Rosen M, Gelband H, Merker C, Hoffman BF: Mechanisms of digitalis toxicity: Effects of ouabain on phase four of Purkinje fiber transmembrane potentials. *Circulation* 47:681-689, 1973.
8. Rosen M, Merker C, Gelband H, Hoffman BF: Effects of procaine amide on the electrophysiologic properties of the canine ventricular conducting system. *J Pharmacol Exp Ther* 185:438-446, 1973.
9. Rosen M, Gelband H: Effects of ouabain on canine Purkinje fibers in situ and perfused with blood. *J Pharmacol Exp Ther* 186:336-372, 1973.
10. Rosen M, Ilvento J, Gelband H, Merker C: Effects of verapamil on electrophysiologic properties of canine cardiac Purkinje fibers. *J Pharmacol Exp Ther* 189:414-423, 1974.
11. Rosen M, Miura D, Danilo P: Effects of dimethyl quaternary propranolol on electrophysiological properties of canine cardiac Purkinje fibers. *J Pharmacol Exp Ther* 193:209-217, 1975.
12. Rosen MR, Hordof A, Hodess A, Verosky M, Vulliemoz Y: Effects of ouabain on electrophysiologic properties of neonatal, young and adult canine cardiac Purkinje fibers. *J Pharmacol Exp Ther* 194:255-263, 1975.

Original Articles continued:

13. Glicklich JE, Gaffney R, Rosen MR, Hoffman BF: Effects of AY-22, 241 (Actodigin) on electrical and mechanical activity of cardiac tissues. *Eur J Pharmacol* 32:1-9, 1975.
14. Rosen MR, Merker C, Pippenger CE: The effects of lidocaine on the canine ECG and electrophysiologic properties of Purkinje fibers. *Am Heart J* 91:191-202, 1976.
15. Rosen MR, Danilo P, Alonso MB, Pippenger CE: Effects of therapeutic concentrations of diphenylhydantoin on transmembrane potentials of normal and depressed Purkinje fibers. *J Pharmacol Exp Ther* 197:594-604, 1976.
16. Hordof AJ, Edie R, Malm J, Hoffman BF, Rosen MR: Electrophysiologic properties and response to pharmacologic agents of fibers from diseased human atria. *Circulation* 54:774-779, 1976.
17. Levy JA, Weiss RM, Dirksen ER, Rosen MR: Possible communication between murine macrophages oriented in linear tissue culture. *Exp Cell Research* 103:375-385, 1977.
18. Danilo P, Hordof A, Rosen MR: Effects of disopyramide on electrophysiological properties of canine cardiac Purkinje fibers. *J Pharmacol Exp Ther* 201:701-710, 1977.
19. Rosen MR, Hordof AJ, Ilvento J, Danilo P: Effects of adrenergic amines on electrophysiologic properties and automaticity of neonatal and adult canine cardiac Purkinje fibers. *Circ Res* 40:390-400, 1977.
20. Miura DS, Hoffman BF, Rosen MR: The effect of extracellular potassium on the intracellular potassium ion activity and transmembrane potentials of beating canine cardiac Purkinje fibers. *J Gen Physiol* 69:463-495, 1977.
21. Danilo P, Langan W, Rosen M, Hoffman B: Effects of the phenothiazine analog, EN-313 on ventricular arrhythmias in the dog. *Eur J Pharmacol* 45:127-139, 1977.
22. Gelband H, Rosen MR, Myerburg R, Bush H, Bassett A, Hoffman BF: Restorative effect of epinephrine on the electrophysiologic properties of depressed human atrial tissue. *J Electrocardiol* 10:313-320, 1977.
23. Weiss RM, Vulliemoz Y, Verosky M, Rosen MR, Triner L: Adenylate cyclase and phosphodiesterase activity in rabbit ureter. *Invest Urology* 15:15-18, 1977.
24. Mary-Rabine L, Hordof A, Bowman FO, Malm JR, Rosen MR: Alpha and β -adrenergic effects on human atrial specialized conducting fibers. *Circulation* 57:84-90, 1978.
25. Hordof A, Spotnitz A, Mary-Rabine L, Edie R, Rosen MR: The cellular electrophysiologic effects of digitalis on human atrial fibers. *Circulation* 57:223-229, 1978.

Original Articles continued:

26. Mary-Rabine L, Rosen MR: Lidocaine effects on action potentials of Purkinje fibers from neonatal and adult dog. *J Pharmacol Exp Ther* 205:204-211, 1978.
27. Danilo P, Vulliemoz Y, Verosky M, Rosen MR: Epinephrine-induced automaticity of canine cardiac Purkinje fibers and its relationship to the adenylate cyclase adenosine 3',5'-monophosphate system. *J Pharmacol Exp Ther* 205:175-182, 1978.
28. Rosenfeld J, Rosen MR, Hoffman BF: Pharmacologic and behavioral effects on arrhythmias that immediately follow abrupt coronary occlusion: a canine model of sudden coronary death. *Am J Cardiol* 41:1075-1082, 1978.
29. Rosen MR, Mary-Rabine L, Danilo P, Hordof AJ: Alpha and β -adrenergic effects on cardiac arrhythmias due to automaticity. In: α Adrenergic Blockade: A New Era in Cardiovascular Medicine. E. Braunwald (ed.), Excerpta Medica/Elsevier, Princeton, 1978, pp. 179-189.
30. Rosen MR, Mary-Rabine L, Hordof AJ, Danilo P: Alpha and β -adrenergic effects on cardiac automaticity. In: Neural Mechanisms in Cardiac Arrhythmias. P.J. Schwartz, A.M. Brown, A. Malliani and A. Zanchetti (eds.), Raven Press, New York, 1978, pp. 365-375.
31. Danilo P, Rosen M, Hordof A: Effects of acetylcholine on the ventricular specialized conducting system of neonatal and adult dogs. *Circ Res* 43:777-784, 1978.
32. Rosen M, Reder R, Hordof A, Davies M, Danilo P: Age-related changes in Purkinje fiber action potentials of adult dogs. *Circ Res* 43:931-938, 1978.
33. Miura DS, Rosen MR: The effects of ouabain on the transmembrane potentials and intracellular potassium activity of canine cardiac Purkinje fibers. *Circ Res* 42:333-338, 1978.
34. Rosen T, Lin M, Spector S, Rosen M: Maternal, fetal and neonatal effects of chronic propranolol administration in the rat. *J Pharmacol Exp Ther* 208:118-122, 1979.
35. Mary-Rabine L, Hoffman BF, Rosen MR: Participation of slow inward current in the Purkinje fiber action potential. *Am J Physiol* 237(2):H204-H212, 1979.
36. Rosen MR, Hordof AJ, Reder RF, Danilo P Jr.: Age- and disease-related changes in cardiac electrophysiological properties. In: Cardiac arrhythmias, electrophysiology, diagnosis and management. O. Narula (ed.), Williams and Wilkins, Baltimore, 1979, pp. 32-39.
37. Rosen MR, Danilo P: Effects of tetrodotoxin, lidocaine, verapamil and AHR-2666 on ouabain-induced delayed afterdepolarizations in canine Purkinje fibers. *Circ Res* 46:117-124, 1980.

Original Articles continued:

38. Rosen MR, Fisch C, Hoffman BF, Danilo P, Lovelace DE, Knoebel SB: Can accelerated atrioventricular junctional escape rhythms be explained by delayed afterdepolarizations? *Am J Cardiol* 45:1272-1284, 1980.
39. Lau YH, Robinson RB, Rosen MR, Bilezikian JP: Subclassification of β -adrenergic receptors in cultured rat cardiac myoblasts and fibroblasts. *Circ Res* 47:41-48, 1980.
40. Reder RF, Danilo P, Rosen MR: Effects of Pirmenol HCl on electrophysiologic properties of cardiac Purkinje fibers. *Eur J Pharmacol* 61:321-333, 1980.
41. Mary-Rabine L, Hordof A, Danilo P, Malm J, Rosen M: Mechanisms for impulse initiation in isolated human atrial fibers. *Circ Res* 47:267-277, 1980.
42. Danilo P, Hordof A, Reder R, Rosen M: Effects of verapamil on electrophysiologic properties of blood-superfused cardiac Purkinje fibers. *J Pharmacol Exp Ther* 213:222-227, 1980.
43. Reder R, Miura D, Danilo P, Rosen M: The electrophysiological properties of normal neonatal and adult canine cardiac Purkinje fibers. *Circ Res* 48:658-668, 1981.
44. Rosen MR, Legato M, Weiss RM: Developmental changes in impulse conduction in the canine heart. *Am J Physiol* 240:H546-H554, 1981.
45. Levi R, Malm JR, Bowman FO, Rosen MR: The arrhythmogenic actions of histamine on human atrial fibers. *Circ Res* 49:545-550, 1981.
46. Dangman KH, Danilo P, Hordof AJ, Mary-Rabine L, Reder R, Rosen MR: Electrophysiologic characteristics of human ventricular and Purkinje fibers. *Circulation* 65:362-368, 1982.
47. Hordof AJ, Rose E, Danilo P, Jr., Rosen MR: Alpha and β adrenergic effects of epinephrine on ventricular pacemakers in dogs. *Am J Physiol* 242:H677-H682, 1982.
48. Ilvento J, Provet J, Danilo P, Rosen MR: Fast and slow idioventricular rhythms in the canine heart: A study of their mechanism using antiarrhythmic drugs and electrophysiologic testing. *Am J Cardiol* 49:1909-1916, 1982.
49. Rosen M, Bowman F, Mary-Rabine L: Atrial fibrillation: the relationship between cellular electrophysiologic and clinical data. In: Atrial Fibrillation. H. Kulbertus, B. Olsson, M. Schlepper (eds.), AB Hassle; Molndal, Sweden, 1982; pp. 62-69.
50. Hewett K, Vulliemoz Y, Rosen MR: Senescence-related changes in the responsiveness to ouabain of canine Purkinje fibers. *J Pharmacol Exp Ther* 223:153-156, 1982.
51. Gessman L, Danilo P, Rosen MR: An electrophysiologic study of the digoxin-quinidine interaction. *J Clin Pharmacol* 23:16-23, 1983.

Original Articles continued:

52. Mary-Rabine L, Albert A, Hordof A, Fenoglio J, Malm J, Rosen MR: The relationship of human atrial cellular electrophysiology to clinical function and ultrastructure. *Circ Res* 52:188-199, 1983.
53. Rosen MR, Danilo P, Weiss RM: Actions of adenosine on normal and abnormal impulse initiation in canine ventricle. *Am J Physiol* 244:H715-H721, 1983.
54. Binah O, Legato MJ, Danilo P, Rosen MR: Developmental changes in the cardiac effects of amrinone in the dog. *Circ Res* 52:747-752, 1983.
55. Binah O, Rosen MR: Developmental changes in the interactions of amrinone and ouabain in canine ventricular muscle. *Dev Pharmacol Ther* 6:333-346, 1983.
56. Binah O, Cohen IS, Rosen MR: The effects of adriamycin on normal and ouabain-toxic canine Purkinje and ventricular muscle fibers. *Circ Res* 53:655-662, 1983.
57. Hewett K, Gessman L, Rosen MR: Effects of procainamide, quinidine and ethmozin on delayed afterdepolarizations. *Eur J Pharmacol* 96:21-28, 1983.
58. Rosen MR: The relationship of delayed afterdepolarizations to arrhythmias in the intact heart. *PACE* 6:1151-1156, 1983.
59. Moak JP, Rosen MR: Induction and termination of triggered activity by pacing in isolated canine Purkinje fibers. *Circulation* 69:149-162, 1984.
60. Untereker W, Danilo P, Rosen MR: Developmental changes in action potential duration, refractoriness, and conduction in the canine ventricular conducting system. *Ped Res* 18:53-58, 1984.
61. Reder R, Danilo P, Rosen MR: Developmental changes in α adrenergic effects on canine Purkinje fiber automaticity. *Dev Pharmacol Ther* 7:94-108, 1984.
62. Hewett KW, Rosen MR: Alpha and β adrenergic interactions with ouabain-induced delayed afterdepolarizations. *J Pharmacol Exp Ther* 229:188-192, 1984.
63. Damiano BP, Rosen MR: Effects of pacing on triggered activity induced by early afterdepolarizations. *Circulation* 69:1013-1025, 1984.
64. Morikawa Y, Rosen MR: Developmental changes in the effects of lidocaine on the electrophysiological properties of canine Purkinje fibers. *Circ Res* 55:633-641, 1984.
65. Rosen MR, Weiss R, Danilo P, Jr.: Effect of α adrenergic agonists and blockers on Purkinje fiber transmembrane potentials and automaticity in the dog. *J Pharmacol Exp Ther* 231:566-571, 1984.

Original Articles continued:

66. Damiano BP, le Marec H, Rosen MR: Electrophysiologic effects of AHR 10718 on isolated cardiac tissues. *Eur J Pharmacol* 108:243-255, 1985.
67. Vulliemoz Y, Verosky M, Rosen M, Triner L: Developmental changes in adenylate cyclase activity in canine myocardium. *Dev Pharmacol Ther* 7:409-421, 1984.
68. le Marec H, Dangman K, Danilo P, Rosen M: An evaluation of automaticity and triggered activity in the canine heart one to four days after myocardial infarction. *Circulation* 71: 1224-1236, 1985.
69. Morikawa Y, Meiri H, Spinelli W, Rosen MR, Robinson R: Modification of V_{max} of canine cardiac Purkinje fibers and the effects of lidocaine by SC-72-14. *Circ Res* 57:354-362, 1985.
70. Drugge E, Rosen MR, Robinson R: Neuronal regulation of the development of the α adrenergic chronotropic response in the rat heart. *Circ Res* 57:415-423, 1985.
71. Hewett K, Rosen MR: Developmental changes in the rabbit sinus node action potential and its response to adrenergic agonists. *J Pharmacol Exp Ther* 235:308-312, 1985.
72. Binah O, Sodowick B, Vulliemoz Y, Danilo P, Rosen MR: The inotropic effects of amrinone and milrinone on neonatal and young canine cardiac muscle. *Circulation* 73: (Suppl III), III-46-51, 1986.
73. Kieval R, Johnson N, Rosen M: Triggered activity as a cause of bigeminy. *J Am Coll Cardiol* 8:644-647, 1986.
74. Morikawa Y, Rosen MR: Effects of quinidine on the transmembrane potentials of young and adult canine cardiac Purkinje fibers. *J Pharmacol Exp Ther* 236:832-837, 1986.
75. Spinelli W, Rosen M: Frequency dependent actions of phenytoin in adult and young canine Purkinje fibers. *J Pharmacol Exp Ther* 238:794-801, 1986.
76. le Marec H, Spinelli W, Rosen M: The effects of doxorubicin on ventricular tachycardia. *Circulation* 74:881-889, 1986.
77. Johnson N, Danilo P, Wit A, Rosen M: Characteristics of initiation and termination of catecholamine-induced triggered activity in atrial fibers of the coronary sinus. *Circulation* 74:1168-1179, 1986.
78. Spinelli W, Danilo P, Buchthal S, Rosen MR: Developmental changes in the effects of β -adrenergic blocking concentrations of propranolol on canine Purkinje fibers. *Dev Pharmacol Ther* 9:412-425, 1986.

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